

Errata for Multigrid Tutorial, Second Edition, 2nd and Later Printings

- p. 2. (x_i, y_i) should be (x_i, y_j) .
- p. 5. In problem 4, $f(x)$ should be $f(x, y)$.
- p. 28. The eigenvector is missing a j -th power on the cosine term. It should be $w_{k,j} = [\cos(\frac{k\pi}{n})]^j \sin(\frac{jk\pi}{n})$ as on p. 22.
- p. 91. Add the following sentence to problem 2: “Assume the constant from the Galerkin property is $c = 1$.”
- p. 91. Add the following sentence to problem 3: “Note, the left side of the discretized equations are divided by h^2 ; compare with (2.1). The eigenvalues of A^h need to be divided by h^2 as well.”
- p. 92. Change the last sentence in 3c to “Use the eigenvalues of A^h and the definition of matrix norms to show that $\|(A^h)^{-1}\|_h$ is bounded independent of h .”
- p. 110. There should be a negative sign in front of each $u''(x)$ in problems (i) and (ii) to avoid indefinite linear systems.
- p. 151. The second coloring pass, as given in problem 7, does not pick the set of C -points shown in figure 8.6. This set also violates **(H-1)**. The second pass gives:

$$\begin{array}{cccccc|c}
 C & F & C & F & C & F & C & C \\
 \hline
 C & F & C & F & C & F & C & C \\
 F & F & F & F & F & F & F & F \\
 C & F & C & F & C & F & C & C \\
 F & F & F & F & F & F & F & F \\
 C & F & C & F & C & F & C & C \\
 F & F & F & F & F & F & F & F \\
 C & F & C & F & C & F & C & C
 \end{array} . \tag{1}$$

- p. 159. In the heading of problem 2, some vectors are not bold-face. It should be $\|\mathbf{r}\|_{D^{-1}} \ll \|\mathbf{e}\|_A$.